(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 767 104 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
09.04.1997 Bulletin 1997/15

(51) Int Cl.[6]: **B65D 23/10**, B65D 47/30, B65D 47/32

(21) Application number: **96307261.6**

(22) Date of filing: **04.10.1996**

(84) Designated Contracting States:
BE DE ES FR LU NL

(30) Priority: **07.10.1995 GB 9520552**

(71) Applicant: **Halfords Limited**
Redditch, Worcestershire B98 0DE (GB)

(72) Inventors:
- **Grange, Kenneth**
  London W11 2RP (GB)
- **Foskett, Peter**
  London W11 2RP (GB)
- **Thomson, Gavin**
  London W11 2RP (GB)

(74) Representative:
Dunlop, Brian Kenneth Charles et al
c/o Wynne-Jones, Lainé & James
22 Rodney Road
Cheltenham Gloucestershire GL50 1JJ (GB)

(54) Container

(57) This invention relates to containers and in particular to containers for viscous liquids such as engine oil. A container generally indicated at 10 comprises a body 11 and a top assembly 12. The body 11 has a generally rectangular cross-section and is the shape of a ship's hull stood on end in its longitudinal section. A re-entrant handle 13 is formed in one of the wide faces 14 such that it generally in line with an outlet 15 and a recess 17.

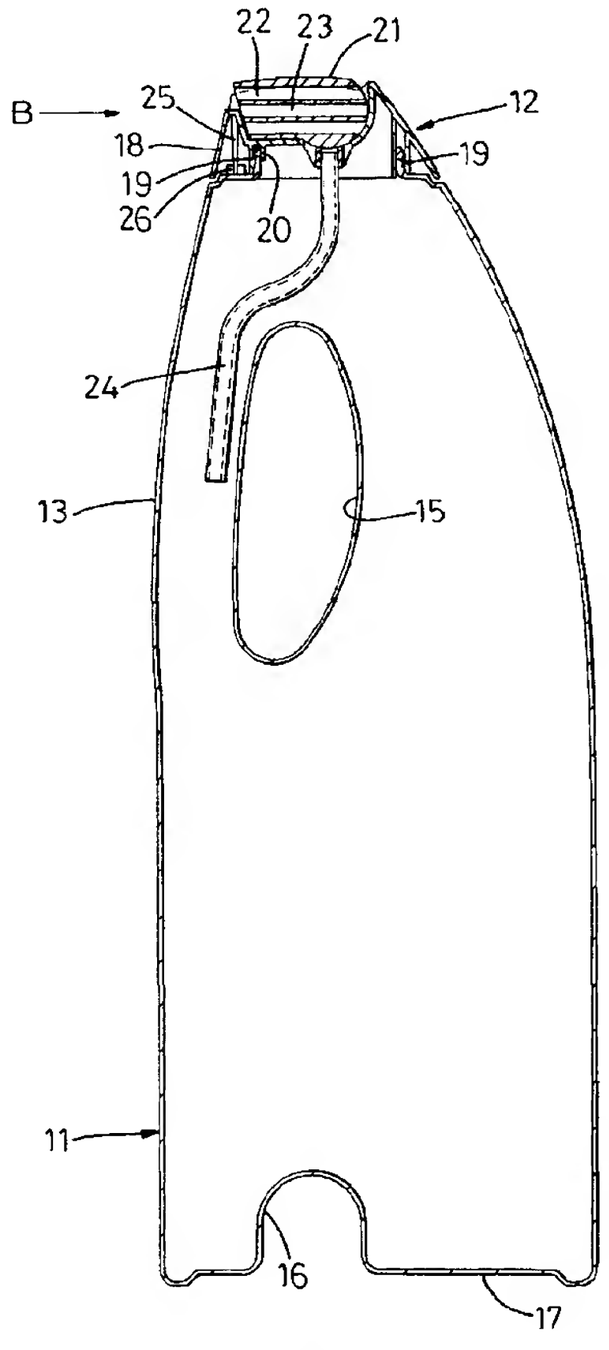

Fig. 2

EP 0 767 104 A1

Description

This invention relates to containers and in particular to containers for viscous liquids such as engine oil.

Engine oil is normally sold in small top-up containers of, for example, one litre of oil, or large containers of say 5 litres for complete oil replacement. These latter containers are generally in the form of a narrow upright box and have a pouring opening at the top corner and a handle along side to extend across the top and/or a handle extending down one narrow side. The result is that accurate pouring is extremely difficult, in part because of the large volume of oil which is above the pouring opening when the container is tilted.

From one aspect the invention consists in a container having a handle formed in a wall thereof and a pouring outlet generally in line with the handle.

From another aspect the invention consists in a container for liquid having an elongate body and generally rectangular transverse cross-section and a base, a pouring outlet at the top of the container and a handle formed in a wide side of the container.

In either case, this new position of the handle dramatically alters the pouring characteristics of the container and in a particularly preferred embodiment the volume of the container, relative to the intended volume of content is such that all, or substantially all, of the contents lie level with or below the outlet when the container is held by the handle in a horizontal position.

Preferably the longitudinal centre of the handle lies in the upper half of the body and particularly conveniently the whole handle lies in that upper half. The handle may be re-entrant and define a passage for the users' fingers and it is preferred that that passage is substantially longitudinally aligned with the outlet. The geometry of this arrangement further enhances the pouring control available.

A pivotal nozzle may provide at the pouring outlet and may be movable between a closed position and an open position and an air bleed hole may be associated with the nozzle or outlet to reduce or remove the tendency of liquid to "glug". It is particularly preferred that the bleed hole is defined by a tube extending through the nozzle, e.g. centrally or along its "roof" in the open position, so that in the open position of the nozzle it is aligned with an air tube which debouches into the handle portion of the body or some other part of the body which is not immersed in oil during pouring. Because of the intended relative volumes, described above, this tube will then normally be above the 'high-water' mark of the contents in the pouring position but this may not be essential if the cross-section of the oil passage is sufficiently large in comparison with that of the bleed hold of the tube.

In one arrangement the pouring outlet is mounted on a removable top which closes a mouth of the body that defines the pouring outlet. This mouth is conveniently much larger than the nozzle not only to enhance the original filling of the container, but, in the case of engine oil, to allow waste oil to be poured back into the container for recycling.

Preferably the nozzle opens away from the handle.

A recess may be provided in the base and preferably the recess is sized to receive the fingers of the users' one hand, whilst the other hand holds the handle, to enable the one hand to pivot the body, and hence the nozzle about the other hand. Preferably the recess is on the same side of the longitudinal axis of the body as is the handle. Again this arrangement makes pouring extremely easy.

Preferably the side of the body away from the handle is inwardly inclined as it approaches the top of the container so as to provide a smooth flow path to the nozzle. For example, the longitudinal section of the body may be generally that of a ship's hull, with the handle formed on the "deck" side.

The container may have an elongate contents window and preferably this window is in line with the handle so that it can be readily viewed by the user.

The invention also consists in a container containing liquid and, in particular motor, engine oil, for example, in quantities greater than two litres.

Although the invention has been defined above it is to be understood that it includes nay inventive combination of the features set out above or in the following description.

The invention may be performed in various ways and a specific embodiment will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a view from one side of a container;
Figure 2 is a longitudinal section along the line A-A in Figure 1;
Figure 3 is an edge view of the container of Figure 1;
Figure 4 is a plan view of that container;
Figure 5 is a scrap part sectional view on the arrow B in Figure 2;
Figure 6 is a sectional view through an alternative form of nozzle and cap;
Figure 7a is a view from above of a still further form of nozzle and cap and 7b is side view indicating the open position;
Figure 8 is a sectional view of an alternative closure;
Figure 9 is a view from one side of an alternative container; and
Figure 10 is a cross-section on the line A-A in Figure 9.

A container generally indicated at 10 comprises a body 11 and a top assembly 12. The body 11 has a generally rectangular transverse cross-section and is in the shape of a ships hull stood on end in its longitudinal section. A re-entrant handle 13 is formed in one of the wide faces 14 of the body 11 so that the opening or passage 15 for the users' fingers is disposed generally in line with

an outlet 15 formed in the top assembly 12. It is also in line with a recess 16 formed in the base 17 of the body 11.

The top assembly comprises a top 18 which is engageable on formations 19 on the mouth 20 of the body 11 and a pivotal nozzle 21.

The nozzle 21 is movable between the closed position indicated in the figures and an open position in which its passage 22 is aligned with the outlet or mouth 20. In fact, as will be seen in the drawings, the structure is slightly more complex, inasmuch as the passage 22 has a tube 23 disposed coaxially within it to provide an air bleed hole. A corresponding air tube 24 is disposed centrally within the outlet 15 and extends to lie with its other opening disposed within the hollow handle 13.

The various advantages of this construction have already been referred to. The geometry of the handle 13, recess 16 and outlet 15 when combined with the relative volumes of the liquid and the body make for particularly easy and accurate pouring and the air bleed arrangement prevents gluging. The removable top makes the container suitable for taking used oil for recycling. The removal of the top is assisted by the provision of rib 25 and cooperating ramp 26 (see figure 5).

Figure 6 illustrates an alternative form of nozzle 21a. It will be noted that the tube 23a is now disposed on the upper side of the passage 22a in the pouring orientation and the air tube 24 has now been simplified to a cranked passage 24a which still has its outlet above the "high water" mark. Additional features include detents at 27a and 28a for locking the nozzle 21a in its closed and open position respectively and a lip 29 on the nozzle to prevent drips. The passage 22a is angled to retain an oil removing it when it is moved to the closed position.

Figures 7a and 7b illustrate a yet further arrangement of nozzle and cap. The nozzle 21b has a generally semi-circular body 33 which lateral projections 34 that locate in part circular track 35 in the top 18b. The passage 22b passes straight through the body 33 and defines a semi-circular tube 23b on its "roof" 36. This aligns with the air tube 24b which is now a simple open-ended tube. The nozzle 21b is a two shot moulding so that it can be soft enough along the semi-circular part of 33 to provide a good seal with the top 18b, particularly after pairing.

Figure 8 shows an alternative closure 30 which comprises a snap-fit lid 31 supported on a "live" hinge 32. Screw closures can also be used.

Figures 9 and 10 show an alternative container 10a having handle 13a formed by a pair of recesses 37. Its design is particularly suitable for smaller containers, the container 10a has a screw top 38.

Claims

1. A container having a handle formed in a wall thereof and a pairing outlet generally in line with the handle.

2. A container for liquid having an elongate body of generally rectangular transverse cross-section and having a base, a pouring outlet at or adjacent the top and a handle formed in a wide face of the container.

3. A container as claimed in claim 1 or Claim 2, wherein the longitudinal centre of the handle lies in the upper half of the body.

4. A container as claimed in claim 2 or Claim 3, wherein the whole handle lies in the upper half of the body.

5. A container as claimed in any one of the preceding Claims, wherein the handle is re-entrant and defines a passages for the user's fingers.

6. A container as claimed in claim 5, wherein the passage is substantially longitudinal aligned with the outlet.

7. A container as claimed in anyone of the preceding claims, wherein the pouring outlet is in the form of a pivoting nozzle movable between a closed position and an open position.

8. A container as claimed in claim 7, including an air bleed hole associated with the nozzle.

9. A container as claimed in claim 8, wherein the bleed hole is defined by a central tube in the nozzle which aligns in the open position with an air tube which extends into the handle portion of the body.

10. A container as claimed in any one of the preceding claims, wherein the pouring outlet mounted on a removable top, which closes a mouth on the body.

11. A container as claimed in claim 10, wherein the mouth is of significantly greater cross section than the nozzle.

12. A container as claimed in any one of the preceding claims including an a recess in the base.

13. A container as claimed in claim 12, wherein the recess is sized to receive the fingers of the user's one hand whilst the other holds the handle to enable the one hand to pivot the body and hence the nozzle about the other hand.

14. A container as claimed in claim 12 or claim 13, wherein the recess is on the same side of the longitudinal axis as the handle.

15. A container as claimed in any one of the preceding

claims wherein the longitudinal section of the body is generally that of a ship's hull and the handle is formed on the 'deck' side.

16. A container as claimed in any one of the preceding claims having an elongate contents window.

17. A container as claimed in claim 16, wherein the window is in time with the handle.

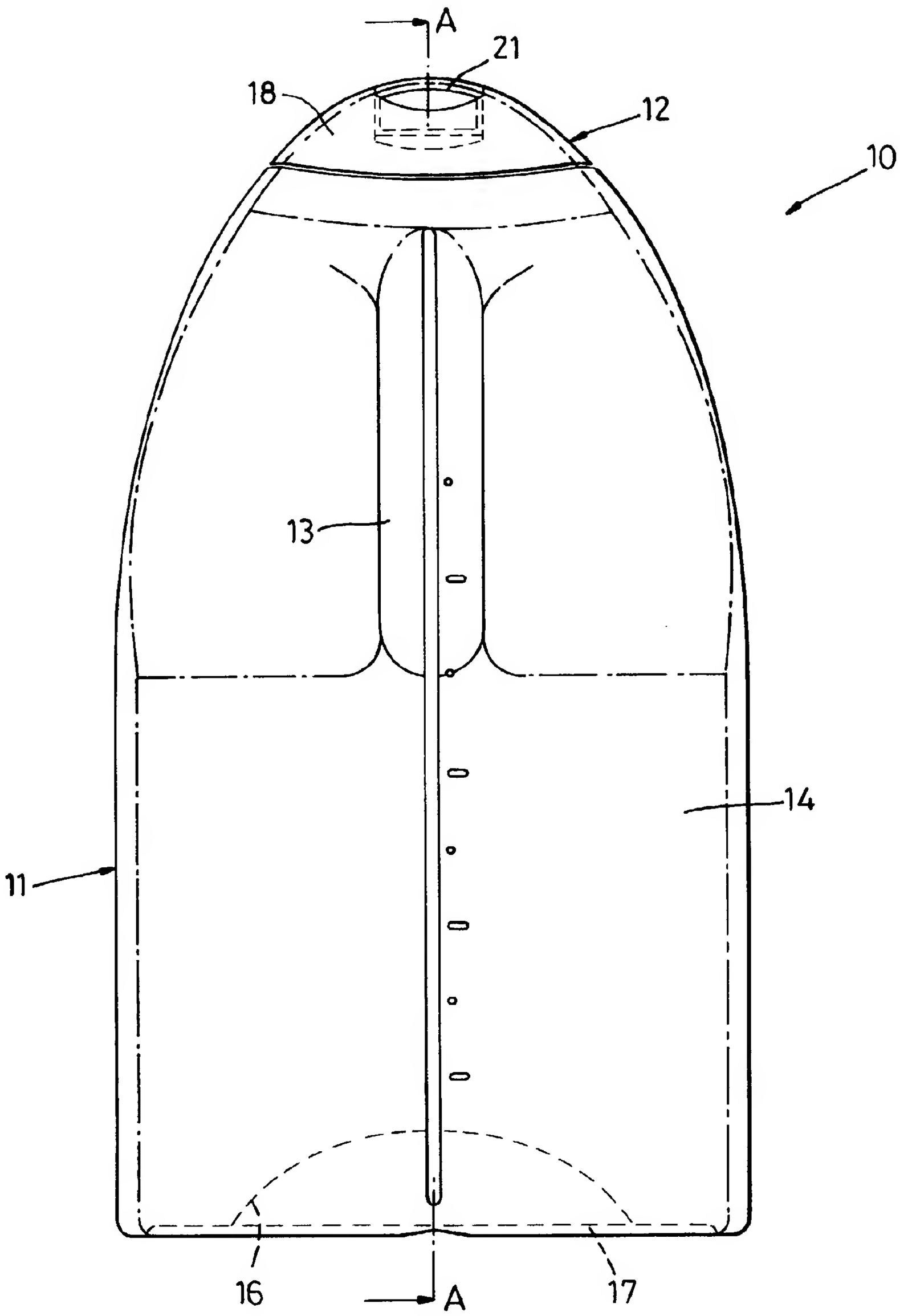

Fig. 1

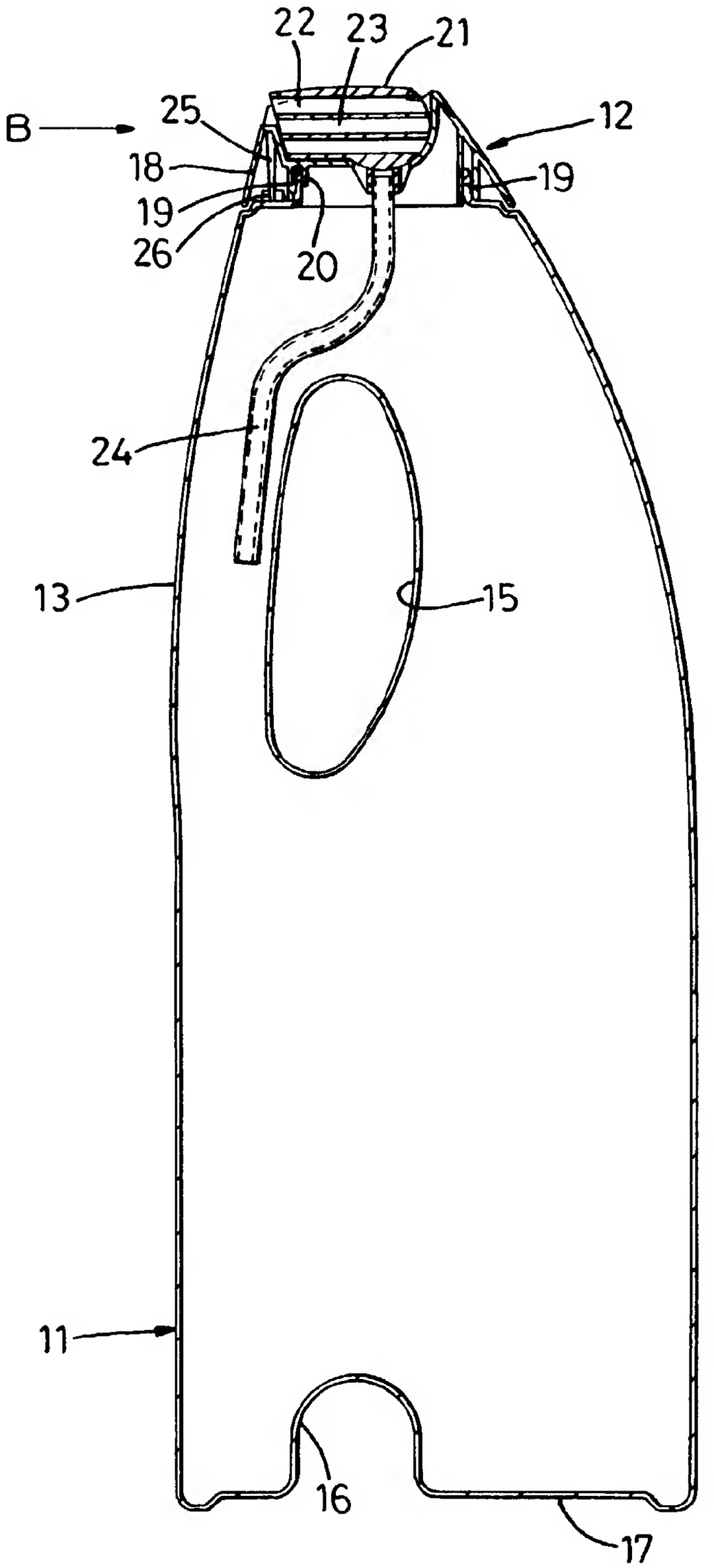

Fig. 2

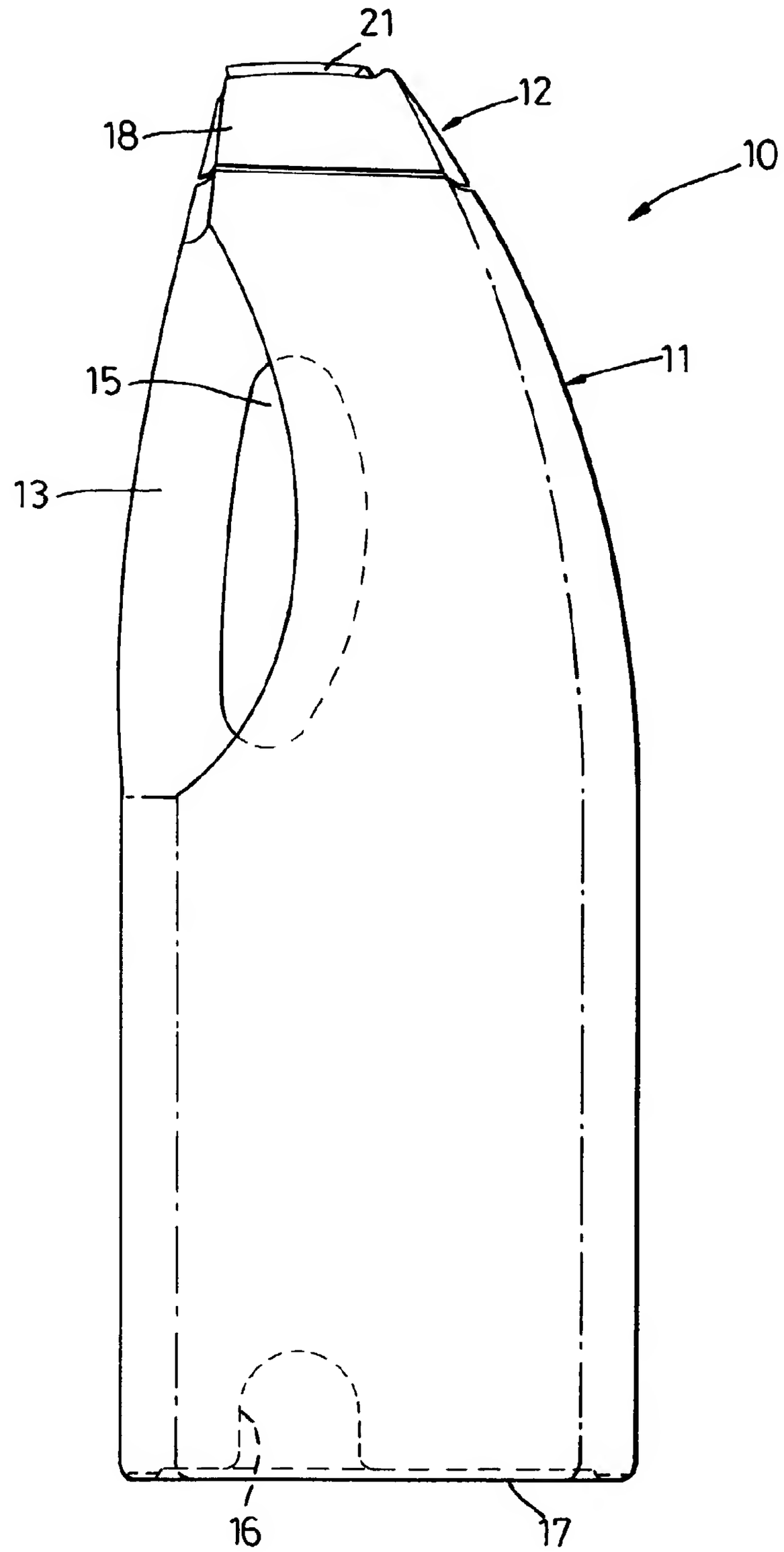

Fig. 3

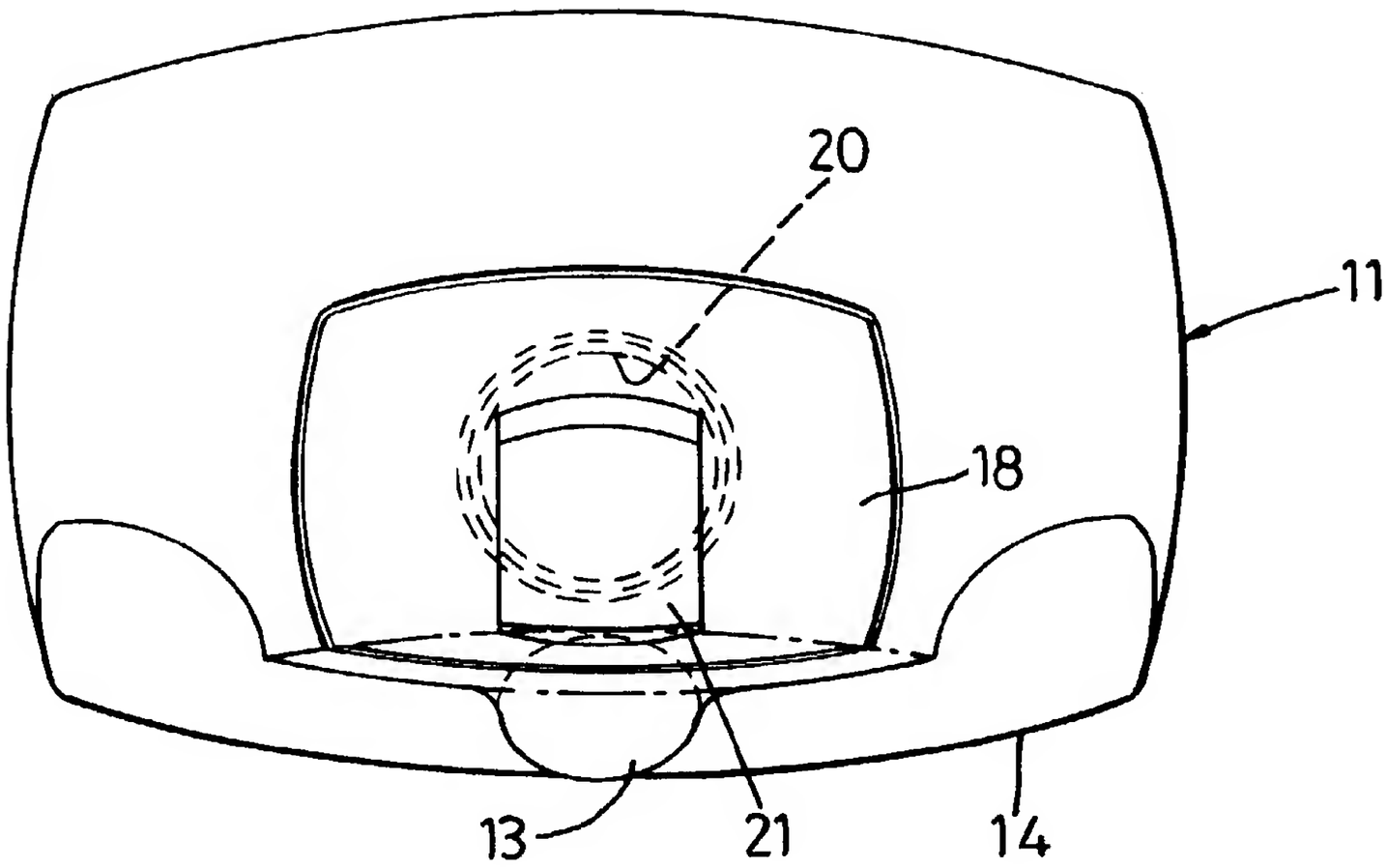

Fig. 4

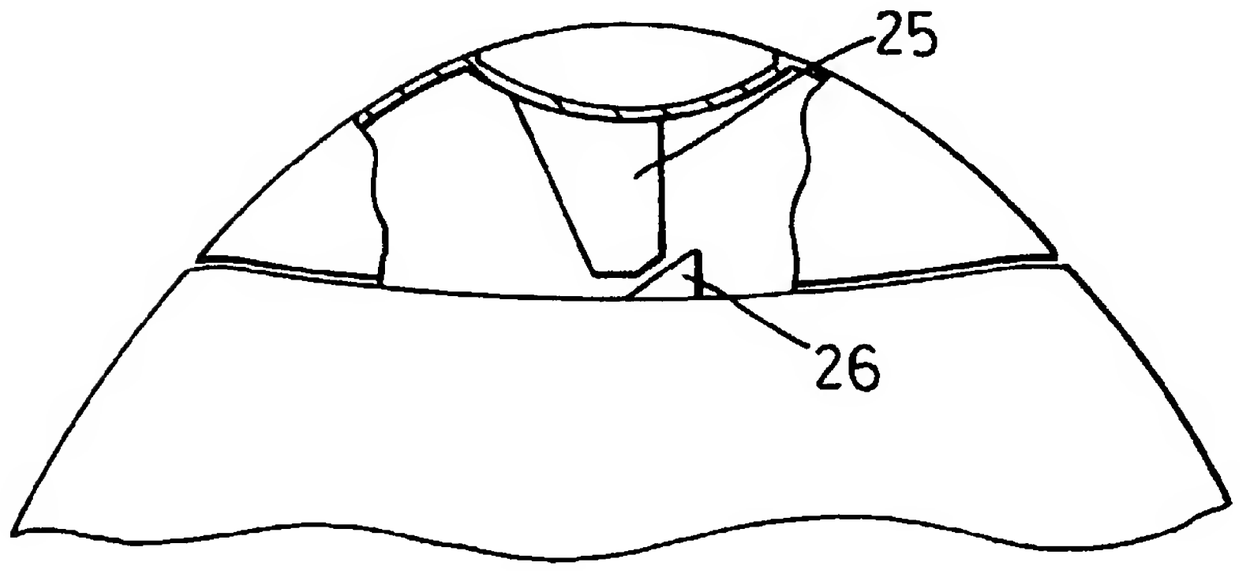

Fig. 5

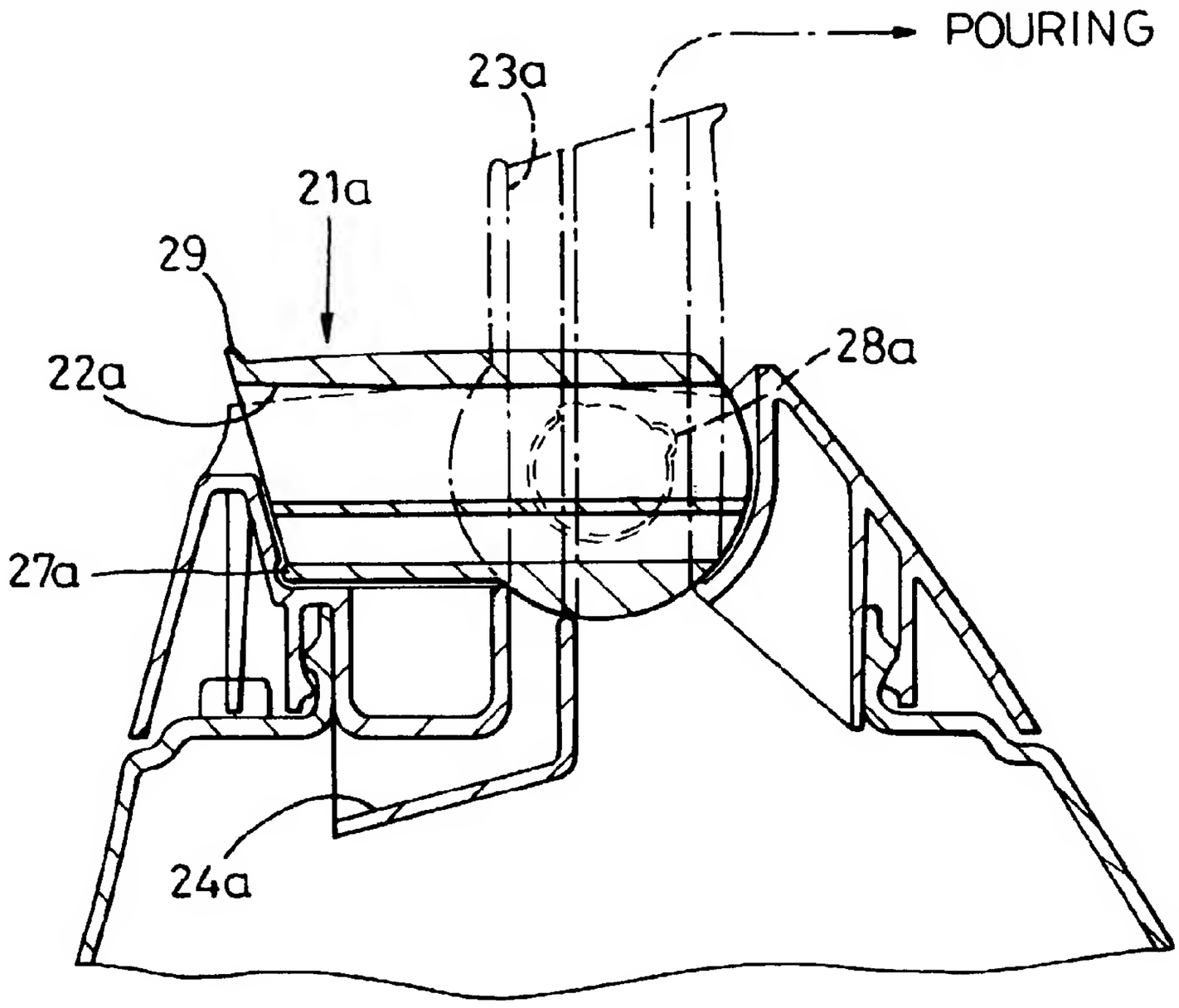

Fig. 6

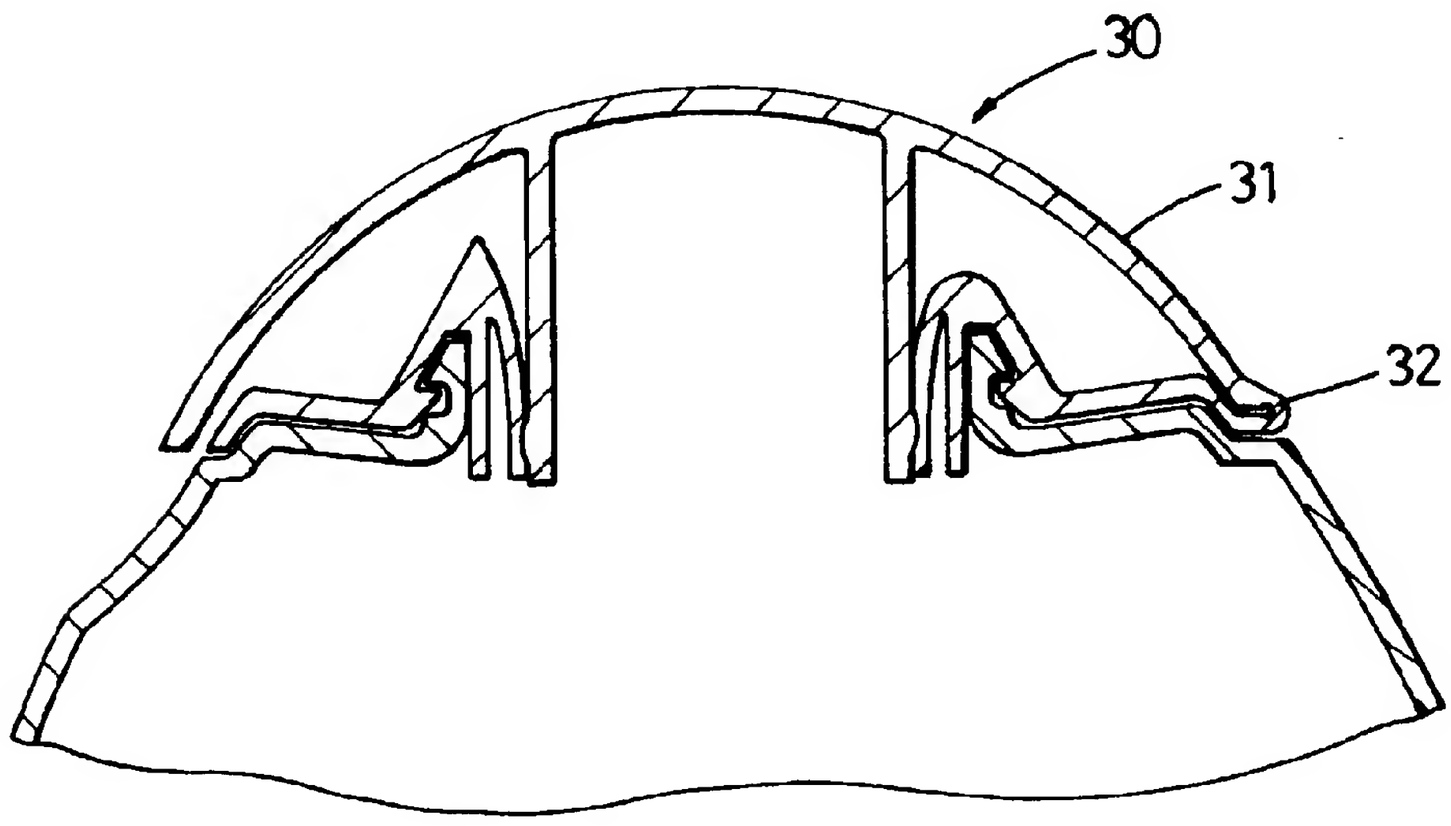

Fig. 8

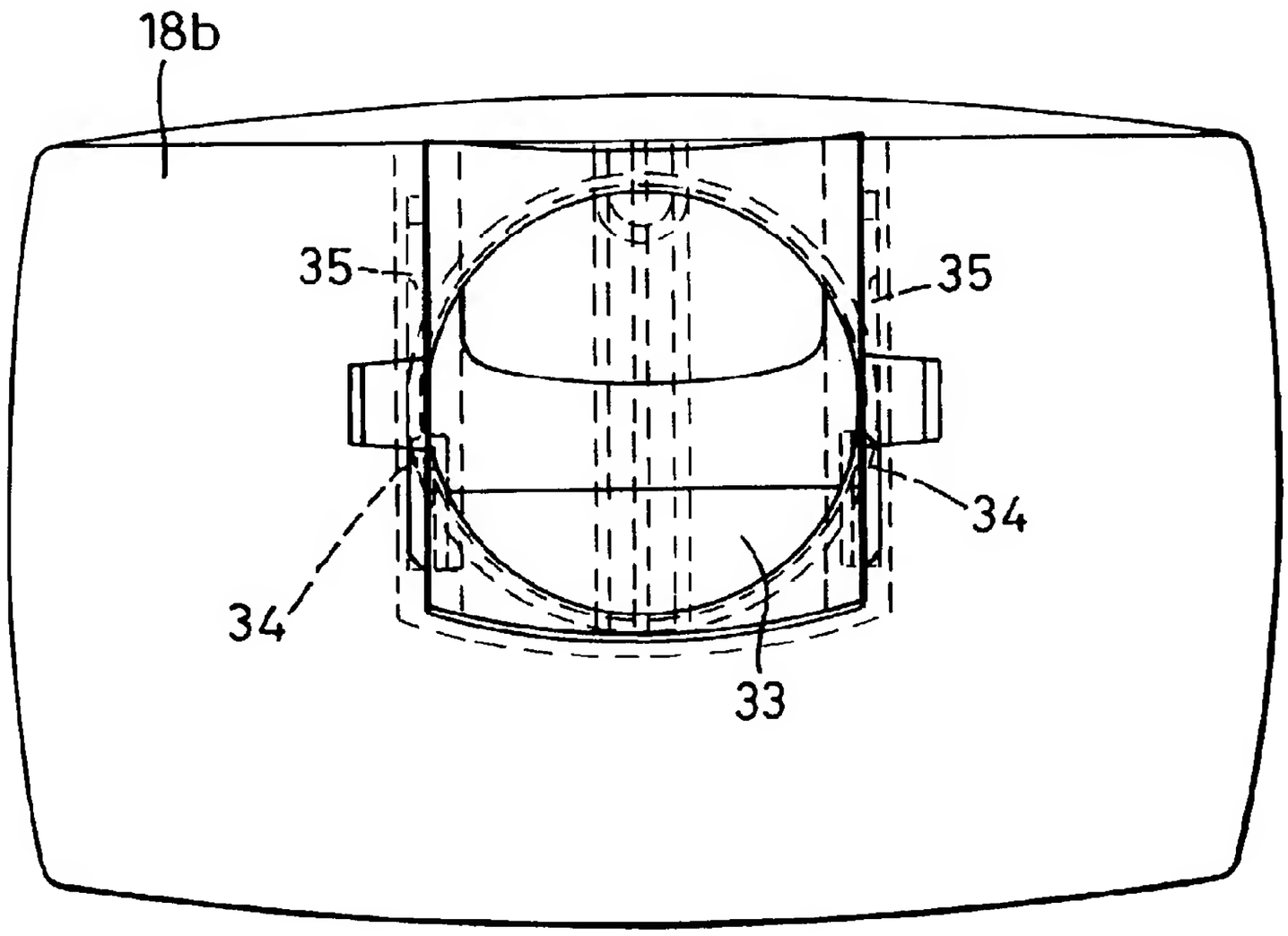

Fig. 7a

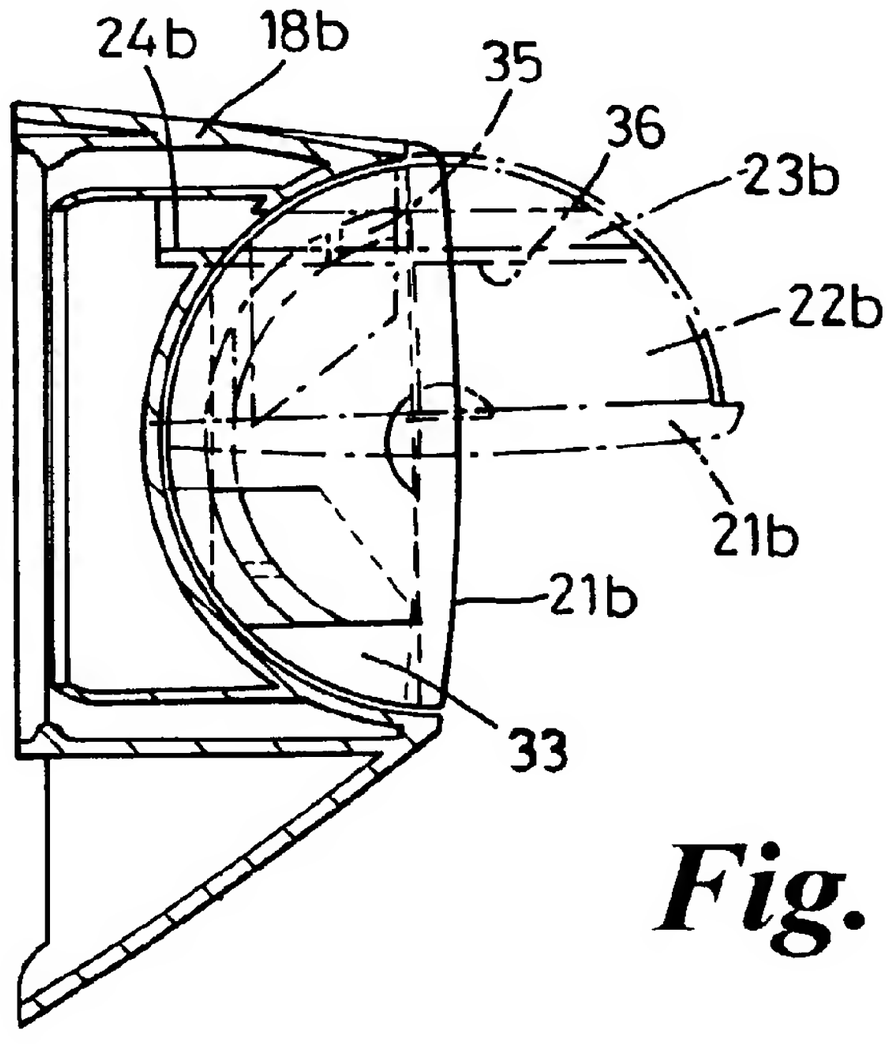

Fig. 7b

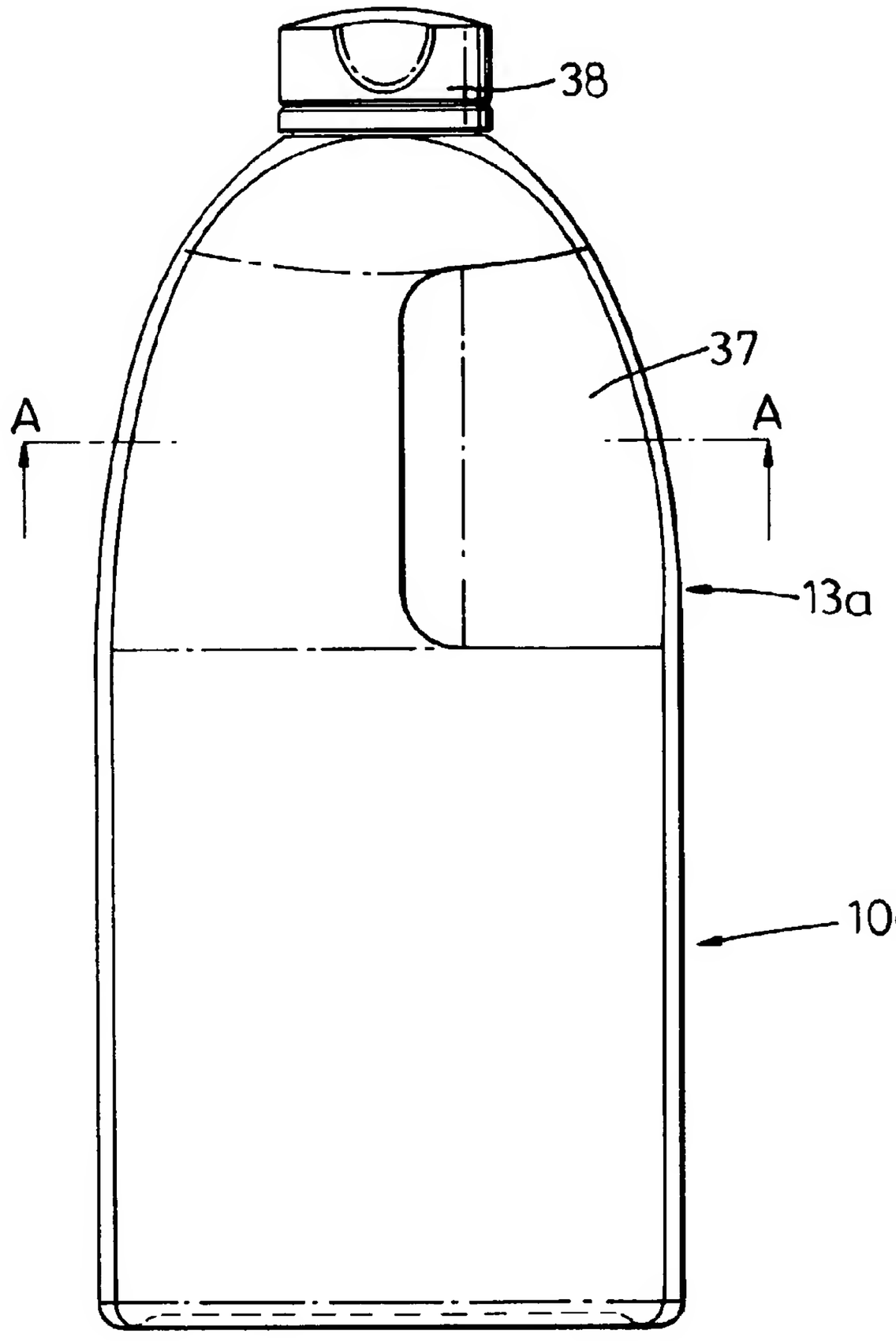

Fig. 9

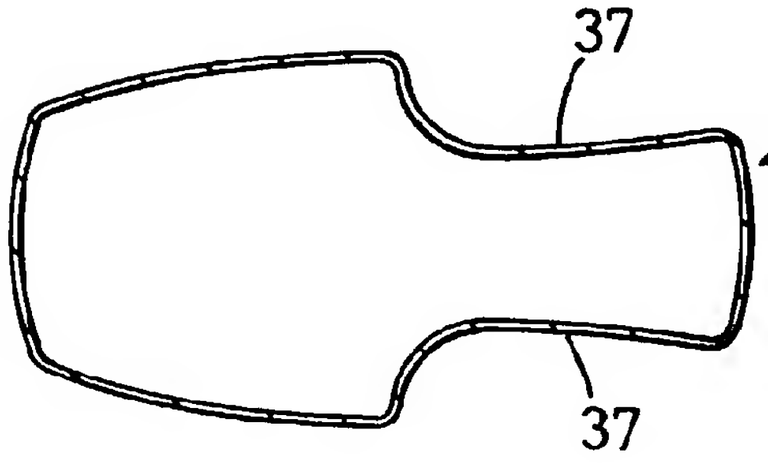

Fig. 10

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 30 7261

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X Y	DE-U-92 12 023 (HENKEL KGAA) 24 December 1992 * page 6 - page 8; figures 1-5 *	1-6 1-5, 12-15	B65D23/10 B65D47/30 B65D47/32
Y	US-A-4 127 206 (VIROG) 28 November 1978 * column 2, line 9 - column 6, line 27; figures 1-8 *	1-5,12, 13,15	
Y	WO-A-87 01677 (GOODALL) 26 March 1987 * page 3, line 21-24; figure 1 *	14	
X	US-A-3 434 635 (MASON) 25 March 1969 * column 1-3; figures 1-3 *	1,3,5	
X	MODERN PACKAGING, vol. --, no. 11, 1968 - 1968, --, pages 60-60, XP002022997 U.S. CAP & CLOSURE INC, 5235 N.ELSTON AVE.,CHICAGO: "new reclosable dispenser/venting cap" * page 60, column 1 *	7-10	
A	DE-A-43 25 101 (PRESSOL SCHMIERGERÄTE) 2 February 1995 * column 3, line 50-58; figure 1 *	16,17	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	17 January 1997	Vollering, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)